



WARNING

Before installing the kit or making any adjustments, do the following: stop the engine, remove the key, disconnect the spark plug wire and secure the wire away from the plug. Allow engine to cool.

INSTALLATION INSTRUCTIONS

ELECTRIC START KIT

MFG. NO. 1690680

PROVIDES ELECTRIC START
FOR WALK-BEHIND SNOWTHROWERS:
MFG. NO. 1690678 & 1690679.

A 12 V. BATTERY (1685205) MUST
ALSO BE PROVIDED.

KIT PARTS

Take an inventory of the parts in the kit by referring to figure 1. Part numbers for the items can be found in the snowthrower parts manual.

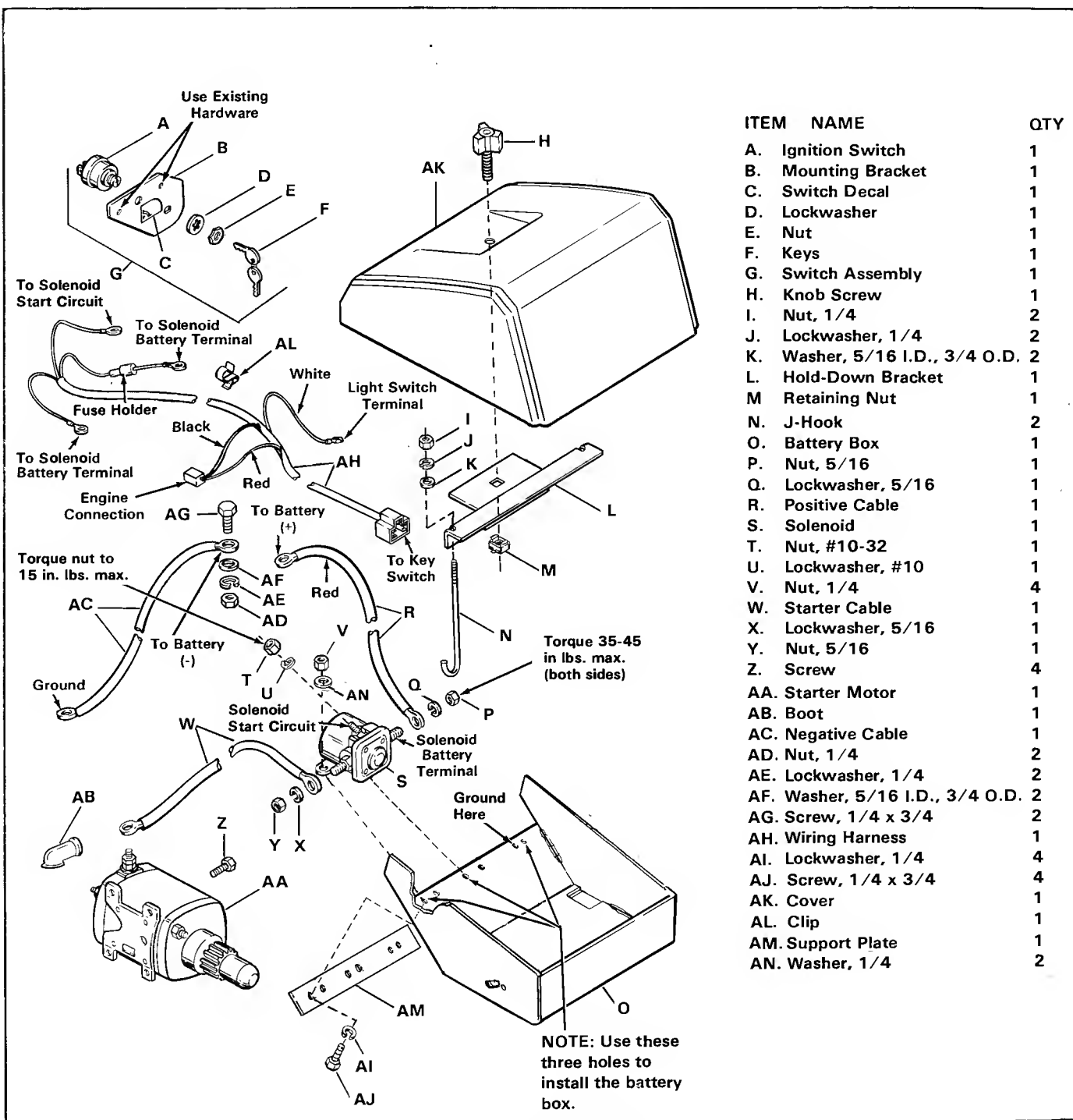


Figure 1. Electric Start Kit

BATTERY CHARGING



WARNING

Battery acid causes severe burns. To avoid an explosion, keep flames and sparks away from the battery. Remove the battery from the tractor for activation. Follow instructions supplied by battery charger manufacturer. **WEAR EYE PROTECTION DURING ACTIVATION.**

These instructions apply to a Simplicity 12 volt battery, part number 1685205, which must be ordered separately. Fill the battery with electrolyte to the split ring in each cell. Let the electrolyte stand for 20 minutes. After the 20 minutes, check the level. If necessary, add electrolyte to bring the level up to the split ring. **DO NOT OVERFILL.** Charge the battery until there is a specific gravity of 1.260 in each cell (maximum charge rate: 6 amps).

PROCEDURE

1. Disconnect the wire from the ignition switch on the snowthrower. Disconnect the other end of the wire and remove it from the snowthrower.
2. Remove the nut by turning counterclockwise, then remove the ignition switch from the snowthrower.
3. Remove the existing two screws (A, figure 2), then install the bracket (B) with the screws as shown.
4. Insert the new switch (C, figure 2) from the inside (switch will fit only one way due to flat side). Thread the lockwasher and nut onto the switch to secure in place.
5. Apply the decal (D, figure 2) to the bracket (B) as shown.
6. Three 17/64 inch (6.7 mm) holes must be drilled in the snowthrower housing to mount the battery box. See the note in figure 1 to determine which holes in battery box will be used. Position the battery box as shown in figure 3. The front, bottom surface must be flat against the auger housing. The battery box must be level. When the battery box is positioned, mark the three holes (in auger housing) then remove the battery box.

Use two smaller drill bits, such as 1/8 inch (3.1 mm) and then 3/16 inch (4.7 mm), to get the holes started. Then drill out the four holes with a 17/64 inch bit.

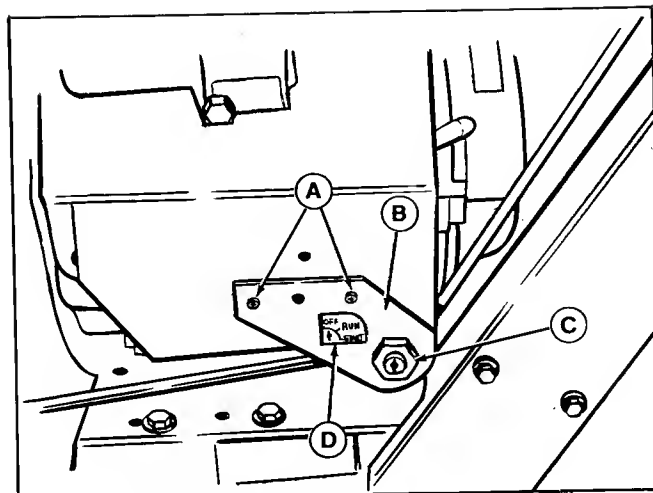


Figure 2. Ignition Switch

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|----------------------|--------------------|
| A. Screws (existing) | C. Ignition Switch |
| B. Bracket | D. Decal |

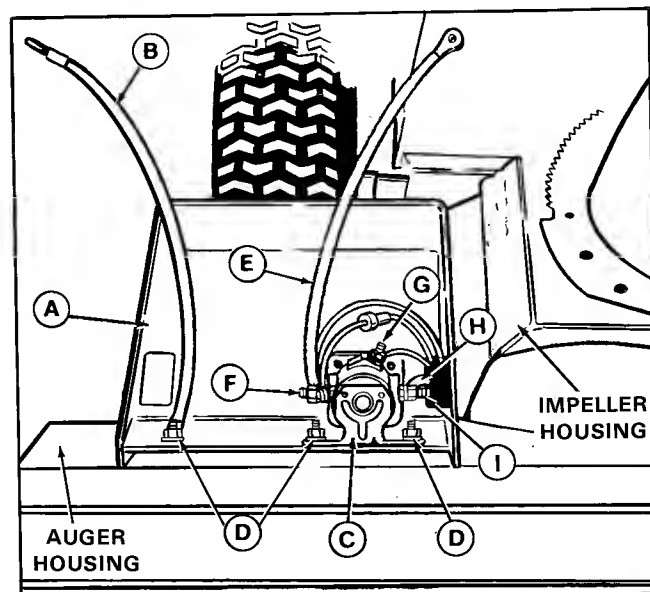


Figure 3. Battery Box

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| A. Battery Box |
| B. Negative Cable, 15" (38 mm) (Black) |
| C. Solenoid |
| D. Mounting Hardware |
| E. Positive Cable, 10-14 (266 mm) (Red) |
| F. Solenoid Battery Terminal |
| G. Small Terminal |
| H. Starter Motor Cable, 25" (635 mm) (Black) |
| I. Solenoid Starter Terminal |

7. Install the battery box (O, figure 1), support plate (AM), negative cable (B) (15" long), and solenoid (S) as follows.

Place the support plate inside the auger housing and align the holes. Insert the three 1/4 x 3/4" screws from inside the housing. Place the battery box, solenoid, and cable on the screws and install the washers and nuts.

8. Remove the two hex head capscrews which secure the fuel tank and headlight to top of the cylinder shroud. Separate the headlight from the tank and place the tank on top of the cylinder. Be sure it is secure and will not fall off while you are installing the starter motor.
9. Remove the cover (A, figure 4) by removing a "Phillips" screw to expose the flywheel gear. There are four holes threaded in the engine block. Use these four holes to install the starter motor (A, figure 5) with four screws (B).

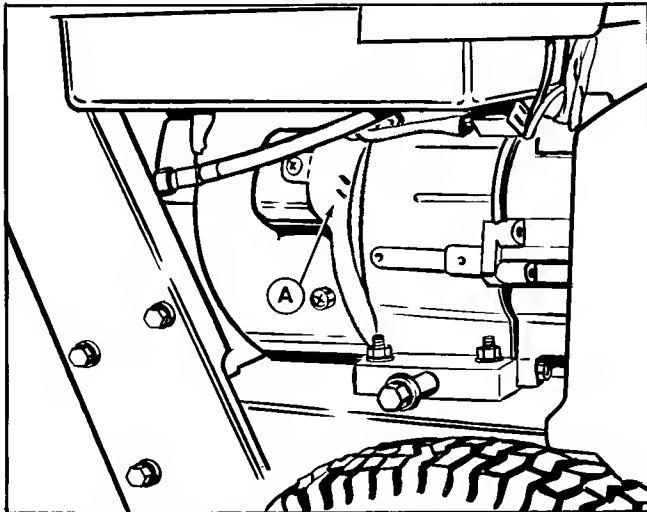


Figure 4. Flywheel Cover

A. Cover

10. Reinstall the headlight and fuel tank. The two washers go between the headlight bracket and tank bracket, and the headlight bracket goes on top. Tighten the two capscrews securely.
11. Remove the capacitor assembly (figure 6) and the engine-to-light wire from the snowthrower by disconnecting from points described in figure 6. These wires will not be needed.
12. Connect the wire from the headlight (C, figure 5) to the top terminal of the light switch. (This wire was disconnected from capacitor assembly in last step).
13. Install the wiring harness, following steps "a" thru "g".
 - a. Connect the female connector to the ignition switch by pushing onto the ignition switch terminals.
 - b. Route the wiring harness over to R.H. side of unit (figure 5).
 - c. Connect the white wire from the harness to the lower terminal of the light switch.
 - d. Connect the wiring harness male connector (D, figure 5) (red and black wires) to the female plug (E) from the engine.

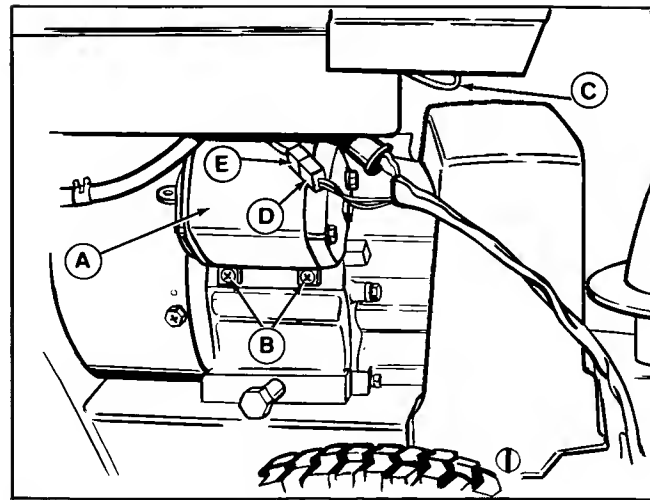


Figure 5.

A. Starter Motor
B. Screws
C. Headlight Wire

D. Male Connector
E. Plug (from engine)

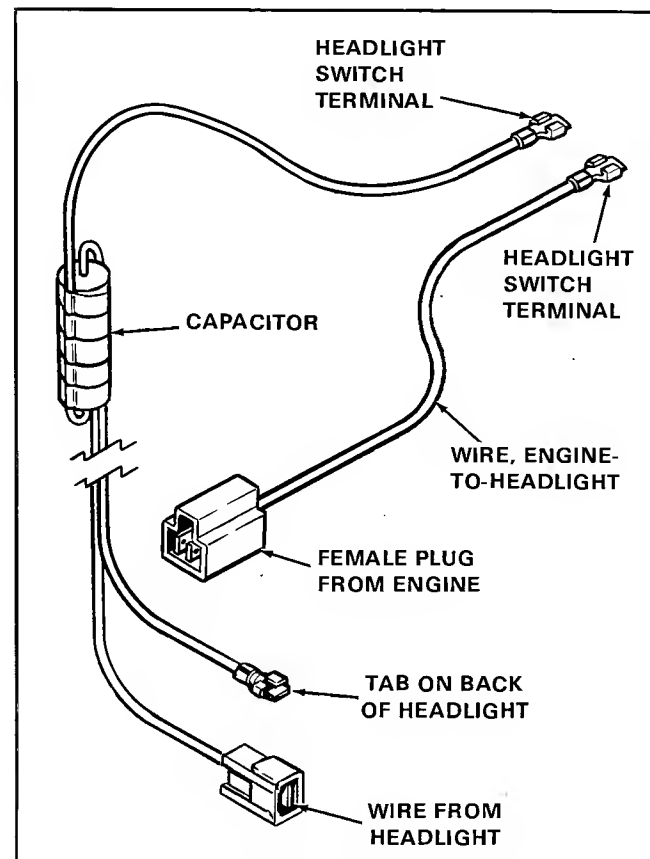


Figure 6. Disconnect and Remove Wires

- e. Route the remaining end of the wiring harness up thru the hole in the bottom of battery box and to the solenoid.
- f. Connect the purple wire to the small terminal (G, figure 3).
- g. Connect the remaining two wires and the positive cable (E) (10-1/4" long) to the solenoid battery terminal (F).

14. Connect the starter motor cable (H, figure 3) (25" long) to the solenoid starter terminal (I). Route the cable down thru hole in battery box.
15. Secure the wiring harness in the clip (I, figure 7) and insert the clip into slot in snowthrower housing.
16. Connect the other end of the cable (E, figure 7) to the starter motor (AA, figure 1). Be sure the boot (AB) is in place over in the terminals.
17. Make sure the retaining nut (F, figure 7) is securely positioned in the hole in the battery clamp.
18. Hook the J-hooks (B, figure 7) into the holes in each side of the battery box. Place the battery in the box with the positive post on the solenoid side.
19. Position the battery clamp (A, figure 7) onto the J-hooks and battery as shown. Install a 1/4" washer, lockwasher and nut on each J-hook to secure the clamp (A).



WARNING

When installing the battery, always connect the positive cable first to avoid causing sparks or a short circuit.

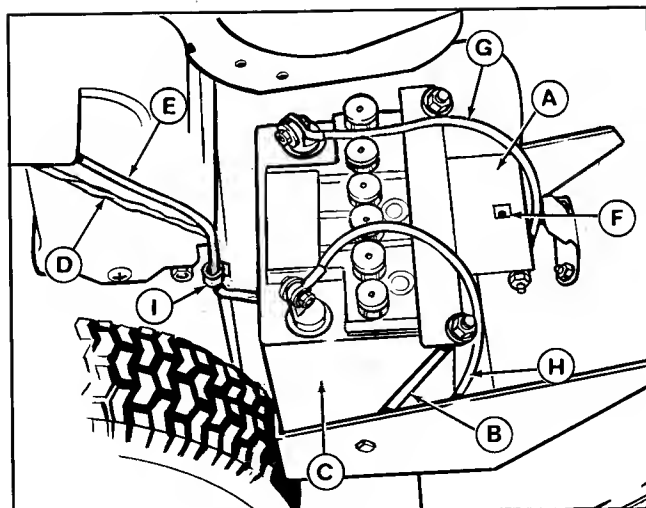


Figure 7. Battery Installed

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|------------------------|-------------------|
| A. Battery Clamp | F. Retaining Nut |
| B. J-Hook | G. Positive Cable |
| C. Battery | H. Negative Cable |
| D. Wiring Harness | I. Clip |
| E. Starter Motor Cable | |

20. Connect the red positive cable (G) to the battery positive post. Connect the black negative cable (H) to the battery negative post.
21. Test Operation. Disconnect the spark plug wire and secure it away from the plug. Turn the key switch to START. If the starter motor cranks, the electric start kit is working properly. If the starter motor does not crank, recheck the wiring connections.
22. Position the cover (AK, figure 1) onto the battery box, and thread the knob screw (H) thru cover and into the retaining nut. This completes the installation.